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EXAMINER

NGUYEN, HANH N

ART UNIT PAPER NUMBER

2834

DATE MAILED: 10/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/054,879

Applicant(s)

INABA ET AL.

Examiner

Nguyen N Hanh

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 11-15 are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Applicant's election, with traverse, of group I, claims 1-10 in Paper No. 5 is acknowledged. The election with traverse is on the ground that "the Examiner's mischaracterization of the inventions II and I as being related as combination and subcombination and the utilization of the requirements of MPEP § 806.05(c) for showing distinctness". The Examiner respectfully disagrees with the Applicant.

The inventions are distinct, each from the other because of the following reasons:

1. Inventions II and I are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination (group II) does not require the cooling fan provided at the closing side of said rotor. The subcombination (group I) has separate utility such as an alternator without a coupler member. The requirement is still deemed proper and is therefore made FINAL.

Specification

2. The disclosure is objected to because of the following informalities: "rear bracket 12" should be ---rear bracket 26--- in Page 10, line 16 and "26d" in Page 12, line 8 should be ---28---.

Claim 10 is objected to because of the following informalities: "said cooling fan also includes a cooling fan".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 7-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear what is "a side surface portion of said bracket" in line 10 of claim 7. Under the light of the specification in Page 11, lines 12-28, The Examiner interprets "a side surface portion of said bracket" is member 26b for enclosing or shutting off the space confronted on a reverse side of the pulley of the rotor.

Regarding claim 10, there is no antecedent basis for "the other side of said rotor" in lines 3 and 5. Under the light of the specification, The Examiner interprets "the other side of said rotor" as the side of the pulley. There is no antecedent basis in the disclosure to support "a side surface portion" in line 2, claim 10.

Claims 8 and 9 are dependent claim of claim 7.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1,5,7,9 rejected under 35 U.S.C. 102(b) as being anticipated by Tsuruhara.

Regarding claim 1, Tsuruhara discloses an alternator for use in a vehicle, comprising: a stator (111 in Fig. 1) having a stator core (112) being formed in a cylindrical shape and a stator coil (113) wound around said stator core; a rotor (31) having pole cores (32) and an excitation coil (33), being attached on a rotation shaft (114), so as to be located within said stator; brackets (2 and 3), being thermally connected to said stator for supporting said stator, for supporting said rotation shaft at both sides of said rotor, and being closed at one side of said rotor (front bracket 2); cooling liquid passages provided in said brackets (7 and 21 in Fig. 1); a cooling fan (35) provided at the closing side of said rotor; and a cooling fin (17) provided in vicinity of said cooling passages, opposing to said cooling fan.

Regarding claim 5, Tsuruhara also discloses an alternator for use in a vehicle wherein said bracket is formed from aluminum die-cast, and with said bracket is formed said cooling fin in one body (Col. 5, lines 14-24).

Regarding claim 7, Tsuruhara also discloses an alternator for use in a vehicle comprising: a stator (111 in Fig. 1) having a stator core (112) being formed in a cylindrical shape and a stator coil (113) wound around said stator core; a rotor (31) having pole cores (32) and an excitation coil (33), being attached on a rotation shaft, so as to be located within said stator; brackets (2 and 3), being thermally connected to an outer periphery of said stator for supporting said stator, for supporting said rotation shaft

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at both sides of said rotor, and being closed at one side of said rotor (front bracket 2); an electric appliance (voltage regulator 132 and rectifier 134) disposed on a side of a side surface portion of said bracket for supporting said stator, being opposite to the rotor; cooling liquid passages having an outer peripheral cooling liquid passage (7) formed on an outer peripheral portion of said bracket for supporting said stator, and a side surface cooling liquid passage (25) formed on the side surface portion of said bracket (cover member 18) closing at the one side of said rotor; a cooling fan (35) provided at the closed side of said rotor; and a cooling fin (17) provided in vicinity of said side surface cooling passage, opposing to said cooling fan.

Regarding claim 9, Tsuruhara also discloses an alternator for use in a vehicle wherein said bracket has both side surface portions for closing down at both sides of said rotor, and said cooling fans are provided at the both sides of said rotor, respectively (Fig. 3).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2,8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuruhara in view of Baker et al.

Regarding claims 2 and 8, Tsuruhara shows an alternator for use in a vehicle wherein said cooling fan (35) is of a centrifugal type, having plural numbers of blades

extending in radial directions, so as to emit an air sucked from a central portion from an outer peripheral portion thereof, and said cooling fin has plural numbers of fin portions (fins 17 have outer portion taller than inner portion) so as to form return passages for guiding the air emitted from said cooling fan from the outer peripheral portion to the central portion except showing plural numbers of fin portions extending in radial directions.

However, Baker et al. disclose an electric motor wherein a fan member 24 (Fig. 1,3,6) has plural number of fin portions extending in radial direction for the purpose of guiding the air flow.

Since Tsuruhara and Baker et al. are in the same field of endeavor, the purpose disclosed by Baker et al. would have been recognized in the pertinent art of Tsuruhara.

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to modify Tsuruhara by using plural number of fin portions extending in radial direction as taught by Baker et al. for the purpose of guiding the air flow.

7. Claims 3,4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuruhara in view of Baker et al. and further in view of Gilliland et al.

Regarding claims 3, Tsuruhara and baker et al. show all limitations of the claimed invention except showing the fin portion of said cooling fin is inclined in a direction of an angle of flow out from said cooling fan in an outer peripheral portion thereof, while an inner peripheral portion being directed into a central direction thereof.

However, Gilliland et al. disclose an electric motor wherein the fin portion of said cooling fin (38 in Fig. 3) is inclined in a direction of an angle of flow out from said cooling fan in an outer peripheral portion thereof, while an inner peripheral portion being directed into a central direction thereof for the purpose of guiding the air flow effectively.

Since Tsuruhara, Baker et al. and Gilliland et al. are in the same field of endeavor, the purpose disclosed by Gilliland et al. would have been recognized in the pertinent art of Tsuruhara and Baker et al.

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to modify Tsuruhara and Baker et al. by using the fin portion of said cooling fin is inclined in a direction of an angle of flow out from said cooling fan in an outer peripheral portion thereof, while an inner peripheral portion being directed into a central direction thereof as taught by Gilliland et al. for the purpose of guiding the air flow effectively.

Regarding claims 4, Gilliland et al. also show an electric motor further comprising a fin guide (14 in Fig. 1,2,4) for partitioning between said cooling fin and said cooling fan (18), being thermally connected with said cooling fin (Fig. 4).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuruhara in view of Yoshioka.

Regarding claim 6, Tsuruhara shows all limitations of the claimed invention except showing an alternator for use in a vehicle wherein said cooling fan is made of material having good heat conductivity, and in thermally contact with end surface of the pole cores of said rotor over entire periphery thereof.

However, Yoshioka discloses an alternator for use in a vehicle wherein said cooling fan is made of material having good heat conductivity (metal as described in Col. 7, line 57-60), and in thermally contact with end surface of the pole cores of said rotor over entire periphery thereof for the purpose of improving cooling efficiency.

Since Tsuruhara and Yoshioka are in the same field of endeavor, the purpose disclosed by Yoshioka would have been recognized in the pertinent art of Tsuruhara.

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to modify Tsuruhara by using fan made of good heat conductivity and in thermally contact with end surface of the pole cores of said rotor over entire periphery thereof as taught by Yoshioka for the purpose of improving cooling efficiency.

Regarding claim 10, Yoshioka also shows an alternator for use in a vehicle wherein bracket (13 in Fig. 3) has a side surface portion (bracket 2) for opening the other side of said rotor, and said cooling fan also includes a cooling fan for passing through an air outside at the other side of said rotor (Fig. 3).

Conclusion


9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh N Nguyen whose telephone number is (703) 305-3466. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3431 for regular communications and (703) 305-3431 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

HNN

October 5, 2002


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